

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A data translation system for interacting with data stored in a multidimensional database in a base system language and that is queryable using a specified query format, the data translation system facilitating user interaction with the stored data using the base system language or any of one or more other different languages, the base system language and the one or more other different languages each corresponding to a language that humans use to verbally transfer information to one another, the data translation system comprising:

[[A]]a multidimensional database that stores analytical data;

one or more processors;

an interface component that, when executed by the one or more processors, receives user queries for stored data from a user, the queries receivable in the base system language and any of the one or more other different languages, the queries also receivable in the specified query format and any of a plurality of different query formats;

a translation component configured to, when executed by the one or more processors, receive user queries from the user interface and pass the received user queries to a query conversion component for conversion;

a query conversion component that is different from the translation component, the query conversion component being configured to, when executed by the one or more processors, for ~~converting~~convert received user queries into converted user queries in the specified query format in the base system language, including:

receiving a user query from the translation component;

converting the received user query from any of the one or more other different languages into the base system language;

converting the received user query in the base system language into the specified query format in accordance with query definition rules that specify query syntax and semantic information for the specified query format subsequent to converting the received user query into the base system language; and

returning the converted user query back to the translation component;

wherein the translation component is further configured to pass the converted user query to a query engine;

a query engine configured to, when executed by the one or more processors, receive a converted query from the translation component, submit the converted query to the multidimensional database, receive a query response containing stored data responsive to the converted query from the multidimensional database, the stored data in the base system language, and pass query response data back to the translation component;

wherein the translation component is further configured to receive the query response from the query engine and translate the stored data into any of the one or more other languages in accordance with proper punctuation, syntax and semantics of the other languages, translation including:

determining any of the one or more other different languages that the stored data is to be translated into, and for each of the one or more determined other different languages:

referring to language specific translation tables to statically translate portions of the stored data; and

for any portions of the stored data for which static translation is insufficient, dynamically translating the portions of the stored data through reference to an inference component;

wherein the translation component further includes a unit conversion component configured to convert units of ~~measurement~~ currency from the base system language into units of measurement currency of the one or more other determined languages, and wherein the translation component is configured to obtain an exchange rate at a time when the translation component converts units of currency such that conversion of currency is dynamic and based on a then current exchange rate;

wherein the translation component is further configured to provide the stored data in the one or more other determined languages and any converted units of ~~measurement~~ currency to the interface component.

2. (Previously Presented) The system of claim 1, the interface component comprising a language identification component that determines the specified language of a user.

3. (Cancelled).

4. (Previously Presented) The system of claim 1, the request is a structured query in the user's preferred language.

5. (Previously Presented) The system of claim 3, the request is a natural language request.

6. (Previously Presented) The system of claim 1, the translation component comprises:

one or more translation tables; and

a mapping component that maps retrieved data to its corresponding translation in a translation table.

7. (Previously Presented) The system of claim 6, the translation tables are set up by a database administrator.

8. (Cancelled)

9. (Previously Presented) The system of claim 1, the inference component including a dictionary component that translates data.

10. (Previously Presented) The system of claim 1, the wherein the inference component includes a context analyzer that receives metadata associated with the query response.

11. (Cancelled)
12. (Previously Presented) The system of claim 1, wherein the queries are specified in one of the other different languages.
13. (Previously Presented) The system of claim 1, the queries are specified in natural language.
- 14-16. (Cancelled)
17. (Previously Presented) The system of claim 1, wherein the inference component includes a dictionary component that dynamically translates data.
18. (Previously Presented) The system of claim 1, further comprising a sort component that receives collation information from a user a sorts resulting data in accordance with the collation information.
19. (Previously Presented) The system of claim 18, the collation information includes the language to be used for sorting.

20. (Previously Presented) The system of claim 1, wherein the translation component is configured to translate data and metadata from a multidimensional database in accordance with a received user query.

21. (Previously Presented) The system of claim 20, wherein the translation component maps resulting data and metadata to a translation table to produce translated data and metadata.

22. (Currently Amended) A computer-implemented method of querying data stored in a data store in a base system language and that is queryable using a specified query format, the method comprising:

receiving at a multidimensional database a language selection, the multidimensional database being stored on physical computer storage media and the language selection specifying a language from among one or more other different languages, the language selection being an indication that queries are to be entered and data presented in the specified language, the specified language corresponding to a language that humans use to verbally exchange information;

receiving a query in the specified language and in a query format other than the specified query format;

using one or more processors executing computable instructions, converting the received query into the specified query format in the base system language, the base system language corresponding to a second different language that humans used to verbally exchange information, including:

converting the received query from the specified language into the base system language; and

converting the received query in the base system language into the specified query format in accordance with query definition rules that specify query syntax and semantic information for the specified query format subsequent to converting the received user query into the base system language;

submit the converted query to the data store;

receiving a query response containing stored data responsive to the converted query from the data store, the stored data in the base system language;

using one or more processors executing computable instructions, translating the stored data from the base system language to the specified language, including:

referring to a language specific translation table to statically translate portions of the stored data;

referring to a unit conversion component to convert units of measurement, including at least currency, in the base language system to units of measurement in the specified language, wherein for at least currency, the unit conversion component is configured to consult a current exchange rate, such that values of currency are dynamically variable based on the then current exchange rate; and

for any portions of the stored data for which static translation is insufficient, dynamically translating the portions of the stored data through reference to an inference component; and

utilizing context information to provide an accurate translation that conforms to proper punctuation, syntax, and semantics of the selected language; and
providing the stored data in the specified language to an interface.

23. (Previously Presented) The computer-implemented method of claim 22, wherein the specified language is selected by a user entering a query in the specified language.

24. (Previously Presented) The computer-implemented method of claim 22, wherein translating the stored data comprises retrieving metadata from a translation table, the metadata describing the stored data.

25. (Previously Presented) The computer-implemented method of claim 22, dynamically translating the portions of the stored data through reference to an inference component comprises the inference component utilizing a dictionary.

26. (Previously Presented) The computer-implemented method of claim 22, wherein the query is a natural language query.

27. (Previously Presented) The computer-implemented method of claim 22, wherein the data store is a multidimensional database.

28. (Currently Amended) A computer readable medium at least one of volatile system memory, non-volatile system memory, or disk storage, the computer readable media having stored thereon computer executable instructions for carrying out the computer-implemented method of claim 22.

29. (Cancelled).

30. (Previously Presented) The computer-implemented method of claim 22, wherein the first language is selected from naming German, Spanish, Russian, French, and Chinese and the base system language is English.

31. (Canceled).

32. (Previously Presented) The computer-implemented method of claim 22, wherein referring to a language specific translation table to statically translate portions of the stored data comprises mapping data and meta-data to the language specific translation table.

33. (Previously Presented) The computer-implemented method of claim 22, further comprising sorting the translated stored data based on collation properties specified by a user.

34-41. (Cancelled).